Sponsoring Societies:
The American Society of Pediatric Hematology/Oncology
The International Society of Paediatric Oncology



Pediatric Blood & Cancer

Volume 72, Supplement 6, December 2025

Abstracts from the 57th Congress of the International Society of Paediatric Oncology (SIOP) October 20–23, 2025

PETER E. NEWBURGER, M.D.
EDITOR-IN-CHIEF

THOMAS G. GROSS, MD, PhD
DEPUTY EDITOR

WILEY
ISSN 1545-5017

Discover this journal online at
WILEY ONLINE LIBRARY
wileyonlinelibrary.com/journal/pbc

PEDIATRIC BLOOD & CANCER

Official Journal of

SOCIÉTÉ INTERNATIONALE D'ONCOLOGIE PÉDIATRIQUE
SIOP
INTERNATIONAL SOCIETY OF PAEDIATRIC ONCOLOGY

aspho
The American Society of Pediatric Hematology/Oncology

The American Society of Pediatric Hematology/Oncology and
The International Society of Paediatric Oncology

Editor-in-Chief

Peter E. Newburger, M.D.
UMass Chan Medical School, Worcester, Massachusetts

Deputy Editor

Thomas Gross, M.D., Ph.D.
Phoenix Children's Hospital, Phoenix, Arizona

Associate Editors

Andrea Biondi
University of Milan, Milan, Italy

James I. Geller
University of California San Diego, La Jolla, CA

Melissa M. Hudson
St. Jude Children's Research Hospital, Memphis, Tennessee

Sima Jeha
St. Jude Children's Research Hospital, Memphis, Tennessee

Karen J. Marcus
Dana Farber / Boston Children's Cancer and Blood Disorders Center, Boston, Massachusetts

Isaac Odame
Hospital for Sick Children, Toronto, Ontario, Canada

Clifford M. Takemoto
St. Jude Children's Research Hospital, Memphis, Tennessee

Daniel S. Wechsler
Emory University School of Medicine, Atlanta, Georgia

Edie Weller
Boston Children's Hospital, Boston, Massachusetts

Lori Wiener
Bethesda, Maryland

Section Editors

Clinical Practice Guidelines
Lillian Sung
Hospital for Sick Children, Toronto, Ontario, Canada

On Children, Blood, and Cancer
David N. Korones
University of Rochester Medical Center, Rochester, New York

AYA Oncology
Lindsay Frazier
Dana Farber Cancer Institute, Boston, Massachusetts, USA

Editorial Board

Glenn Mbah Afungchwi, Cameroon
Natasha Alexander, Toronto, Ontario, Canada
Nisreen Amayiri, Amman, Jordan
Ali Amid, Vancouver, British Columbia, Canada
Paula Aristizabal, San Diego, California, USA
Ramandeep Arora, New Delhi, India
Helen Bailey, Perth, Australia
Simon Bailey, London, UK
Joyce Balagadde-Kambugu, Kampala, Uganda
Lorena Viviana Baroni, Buenos Aires, Argentina
Michael Bishop, Little Rock, Arkansas, USA
Asim Belgaumi, Karachi, Pakistan
Francine Blei, New York, New York, USA
Ines Brecht, Tubingen, Germany
Gemma Bryan, Surrey, UK
Yin Ting Cheung, China
Julia Chisholm, London, UK
Alexander Claviez, Hannover, Germany
Raffaella Colombatti, Padova, Italy
Nicholas Cost, Aurora, CO, USA
Scott Coven, Indianapolis, Indiana, USA
Susan Creary, Columbus, Ohio, USA
Alessandro Crocoli, Rome, Italy
Piotr Czauderna, Gdansk, Poland
Jignesh Dalal, Cleveland, Ohio, USA
Carlton Dampier, Atlanta, Georgia, USA
Andrew Davidoff, Memphis, Tennessee, USA
David Dickens, Iowa City, Iowa, USA
Ira Dunkel, New York, New York, USA
Bree Eaton, Ann Arbor, Michigan, USA
Peter Ehrlich, Philadelphia, Pennsylvania, USA
Adam Esbenshade, Nashville, Tennessee, USA
Brian Fisher, New York, New York, USA
Danielle Novetsky Friedman, Hong Kong, China
Adian Chi-Heng Fung, Cincinnati, Ohio, USA
Paul Galardy, Rochester, Minnesota, USA
Jennifer Geel, Johannesburg, South Africa
Abha Gupta, Toronto, Ontario, Canada
Adrienne Hammill, St. Louis, Missouri, USA
Mhamed Harif, Casablanca, Morocco
Robert Hayashi, Amsterdam, The Netherlands
Laila Hessissen, Rabat, Morocco
Trijn Israels, Milwaukee, Wisconsin, USA
Wasil Jastaniah, Makkah, Saudia Arabia
Kenneth Kak-Yuen Wong, Hong Kong
Jeffrey Karst, Memphis, Tennessee, USA
Erica Kaye, Memphis, Tennessee, USA
Lisa Kenney, Boston, Massachusetts, USA
Elena Ladas, New York, New York, USA
Kristin Long, Madison, Wisconsin, USA
Juan Carlos Lopez-Gutierrez, Madrid, Spain
Joseph Lubega, Houston, TX, USA
Philip Lupo, Houston, Texas, USA
Lynley Marshall, London, UK
Daniel Moreira, Houston, Texas, USA
Taizo Nakano, Aurora, Colorado, USA
Caitlin Neri, Boston, Massachusetts, USA
Donna Neuberg, Boston, Massachusetts, USA
Allison O'Neill, Boston, Massachusetts, USA
Arnold Paulino, Quebec City, Canada
Lydia Pecker, Baltimore, MD, USA
Marie-Claude Pelland-Marcotte, Karachi, Pakistan
Wendy Pelletier, Calgary, AB, Canada
Alexandra Power-Hays, Cincinati, Ohio, USA
Ibrahim Qaddoumi, Memphis, Tennessee, USA
Bilal Mazhar Qureshi, Cleveland, Ohio, USA
Susanna Ranta, Solna, Sweden
Henry Rice, Durham, North Carolina, USA
Carlos Rodriguez-Galindo, Memphis, Tennessee, USA
Seth Rotz, Aurora, Colorado, USA
Alyssa Schlenz, Dortmund, Germany
Dominik T. Schneider, Bangkok, Thailand
Thorsten Simon, Koeln, Germany
Bryan Sisk, St. Louis, Missouri, USA
Webb Smith, Memphis, Tennessee, USA
Iyad Sultan, Amman, Jordan
Amber Yates, Houston, Texas, USA
Xiao-dong Zhao, Chongqing, China

Managing Editor

Hannah Watson

15455017, 2025, S6, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/1545-5017.70063 by Turkey Cochrane Evidence Aid, Wiley Online Library on [10/01/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

PEDIATRIC BLOOD & CANCER

Official Journal of

aspho
The American Society of Pediatric Hematology/Oncology

SOCIÉTÉ INTERNATIONALE D'ONCOLOGIE PÉDIATRIQUE
SIOP
INTERNATIONAL SOCIETY OF PAEDIATRIC ONCOLOGY

Affiliated with: The European Society for Paediatric Haematology and Immunology, The Histiocyte Society, The International Society of Paediatric Surgical Oncology, and The Japanese Society for Pediatric Hematology and Oncology









Disclaimer

The Publisher, Societies, and Editors cannot be held responsible for any errors in or any consequences arising from the use of information contained in this journal. The views and opinions expressed do not necessarily reflect those of the Publisher, Societies and Editors, neither does the publication of advertisements constitute any endorsement by the Publisher, Societies and Editors or Authors of the products advertised.

For submission instructions, subscription, and all the latest information, visit http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1545-5017

15455017, 2025, S6, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/1545-5017.70063 by Turkey Cochrane Evidence Aid, Wiley Online Library on [10/01/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

PO302 / #2348 | *AS05 - SIOP Scientific Program / AS05e. Neuroblastoma*

Using the Step up Protocol With Naxitamab Administration in a Relapsed/Refractory Neuroblastoma Patient With Anaphylaxis to Dinutuximab

Teresa Herriage[1], Jawhar Rawwas[1], Kim Maxa[1], Adam Sterman[2]
[1]*Children's Minnesota, Cancer And Blood Disorders Clinic, Minneapolis, United States of America;* [2]*Children's Minnesota, Pain & Palliative Care, Minneapolis, United States of America*

Background and Aims: High risk neuroblastoma remains a challenging diagnosis to treat as long-term survival rates are around 50 percent. Antibody therapy is important in treatment of relapsed/refractory (R/R) disease. Naxitamab is an anti-GD2 monoclonal antibody approved for use in R/R high risk neuroblastoma limited to the bone and bone marrow. A "step-up" protocol has been developed to help reduce severe adverse events causes by naxitamab[3]. We have applied this strategy in a patient who experienced anaphylaxis with dinutuximab, in order to provide an alternative anti-GD2 monoclonal antibody.
Methods: One 5 year old patient received naxitamab therapy using the "step-up" protocol following anaphylaxis to dinutuximab. For each infusion, a comprehensive supportive care combination of pain management, premedications and as needed medications was customized for the patient. The rate of the infusion was titrated up every 15 minutes. Rate was not escalated to the next step unless patient was tolerating the current rate.
Results: The patient received 72 doses of Naxitamab "step-up" infusion in combination with chemotherapy over an 18-month period. The first 4 infusions were administered in an intensive care unit. The patient then transitioned to an outpatient clinic. All doses were infused with the "step-up" protocol. Pain plan consisted of low dose ketamine infusion and fentanyl boluses directed by the pain team. The patient was able to return home after each naxitamab infusion. They did not have anaphylaxis, denied pain, and vital signs remained stable. No adverse events were reported.
Conclusions: Naxitamab "step-up" protocol is an option for children who have had anaphylaxis to dinutuximab in order to continue anti-GD2 therapy in a challenging disease. This experience shows retry with another anti-GD2 therapy is possible. Naxitamab can be safely administered with complex supportive care measures and in collaboration with intensive care and pain team.

PO303 / #661 | *AS05 - SIOP Scientific Program / AS05e. Neuroblastoma*

Chemoimmunotherapy Experience in Relapsed/Refractory Neuroblastoma: Current Status

Nur Olgun[1], Deniz Kizmazoglu[2], Dilek Ince[2], Safiye Aktas[3], Ceren Sarioglu[4], Recep Bekis[5], Mustafa Olguner[6], Handan Ucar[4], Ahmet Celik[7], Ayse Demiral[8], Serra Kamer[9], Riza Cetingoz[8], Refik Cecen[2]
[1]*Dokuz Eylul University, Institute of Oncology/Acibadem Kent Hospital, Pediatric Oncology, İzmir, Turkey;* [2]*Dokuz Eylul University, Institute of Oncology, Pediatric Oncology, İzmir, Turkey;* [3]*Dokuz Eylul University, Faculty of Medicine, Pathology, İzmir, Turkey;* [4]*Dokuz Eylul University, Faculty of Medicine, Radiodiagnostics, İzmir, Turkey;* [5]*Dokuz Eylul University, Faculty of Medicine, Nuclear Medicine, İzmir, Turkey;* [6]*Dokuz Eylul University, Faculty of Medicine, Pediatric Surgery, İzmiir, Turkey;* [7]*Ege University, Faculty of Medicine, Pediatric Surgery, İzmir, Turkey;* [8]*Dokuz Eylul University, Faculty of Medicine, Radiation Oncology, İzmir, Turkey;* [9]*Ege University, Faculty of Medicine, Radiation Oncology, İzmir, Turkey*

Background and Aims: To present the current status of patients diagnosed with relapsed/refractory (R/R) neuroblastoma in Dokuz Eylül University.
Methods: The clinical characteristics and treatment details of patients who received chemoimmunotherapy for R/R neuroblastoma between January 2020 and January 2025 were evaluated. Patients who had received first line chemotherapy or various salvage therapies prior to chemoimmunotherapy were treated with dinutuximab beta (DB) in combination with different chemotherapy regimens. Treatment responses were assessed every two to three cycles using MRI of the primary site, bone marrow aspiration and biopsy, and MIBG or PET-CT scanning.
Results: The median age at diagnosis of the 47 patients was 37 months (4–132 months), M/F:1.24. Five patients were younger than 18 months at diagnosis. Three patients were classified as intermediate-risk, while the remaining 44 patients were in the high-risk group. Among the intermediate-risk patients, two were Stage L2, while all other patients were Stage M. MYCN amplification was detected in 12 patients (26%), and ALK mutation was present in 11 patients (24%). Before developing R/R disease, 20 patients had been treated according to the TPOG NB 2009 protocol, while the remaining 27 patients had received treatment under the TPOG NB 2020 protocol. High-dose chemotherapy followed by autologous stem cell transplantation (ASCT) was performed in 16 patients (34%). Radiotherapy was administered to 83% of patients, and MIBG therapy in 7 patients (15%). The median time to R/R disease was 10 months (3–58 months) and the average number of treatment cycles was 10 (2–20 cycles). An objective response was achieved in 68% of patients, with 20 patients (42%) achieving a complete response and 12 patients (26%) achieving a partial response. Progression-free survival (PFS) rates at 1, 2 and 3 years were 77%, 62%, and 62%, respectively.
Conclusions: The combination of chemotherapy and immunotherapy in patients with relapsed/refractory neuroblastoma continues to yield high overall survival rates. Rapid chemotherapy modifications when an inadequate response is observed, response evaluations every three months, and continuous patient monitoring by an experienced multidisciplinary team are believed to have significantly contributed to these outcomes.

PO304 / #1090 | *AS05 - SIOP Scientific Program / AS05e. Neuroblastoma*

Tpog Nb 2020 Protocol Low Risk Group: Current Results

Deniz Kizmazoglu, Nilgun Kurucu, Eda Ataseven, Ali Varan, Sibel Tekgunduz, Neriman Sari, Suheyla Ocak, Aytul Temuroglu, Ibrahim Kartal, Sonay Incesoy Ozdemir, Derya Özyörük, Begum Sahin, Sultan Aydin, Serhan Kupeli, Deniz Tugcu, Nursah Eker, Birsen Baysal, Elif Güler, Bengu Demirag, Yavuz Koksal, Aykan

15455017, 2025, S6, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/pbc.32170 by Turkey Cochrane Evidence Aid, Wiley Online Library on [15/01/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Ozguven, Ceyhun Bozkurt, Fatih Erbey, Bahar Genc, Ozgur Carti, Asli Yilmaz, Ozge Vural, Sule Yesil, Ayse Erbay, Murat Elli, Volkan Hazar, Alper Ozcan, Zuhal Sıvıs, Canan Ozdemir, Ugur Demirsoy, Tezer Kutluk, Ahmet Celik, Safiye Aktas, Zekiye Altun, Refik Cecen, Dilek Ince, Hatice And N Olgun
Turkish Pediatric Oncology Group, İzmir, Turkey

Background and Aims: To evaluate patients in the very low-risk group (VLRG) and low-risk group (LRG) enrolled in the TPOG NB 2020 Protocol.
Methods: Descriptive analyses were performed, event-free and overall survival rates were calculated.
Results: A total of 267 patients were evaluated, including 214 in the very low-risk group (VLRG) and 53 in the low-risk group (LRG). VLRG (n = 214): In this group, 2 patients had surrenal mass only followed, and 64 patients with ganglioneuroma. For the remaining 148 patients, the median age at diagnosis was 16 months (0–182 months), M/F:1.18. Fifty-one percent of the patients were younger than 18 months. Opsoclonus-myoclonus syndrome was present in 7 patients (4.7%), Kerner-Morrison in 1 patient (0.7%), life-threatening symptoms in 8 patients (5.4%). Tumor location:Surrenal (60%, n = 89), paravertebral (35%, n = 52), midline (5%, n = 7). Tumor histopathology:Neuroblastoma (58%, n = 86), ganglioneuroblastoma intermixed (40%, n = 59), ganglioneuroblastoma mature (2%, n = 3). Stage distribution:Stage L1 (76.4%, n = 113), Stage L2 (16.2%, n = 24), Stage MS (7.4%, n = 11). Primary surgery was performed in 88% of patients, with complete resection achieved in 64%.A total of 13 events occurred, five of death. The 1-year and 3-year event-free survival rates were 94% and 87%, respectively, while overall survival rates were 98% and 96%. The median follow-up duration was 22 months (1–55 months). LRG (n = 53): The median age at diagnosis was 9 months (1 month–12 years), M/F:1.04. Eighty-seven percent of patients were younger than 18 months. Opsoclonus-myoclonus syndrome was present in 4% (n = 2), and life-threatening symptoms were observed in 13% (n = 7). Tumor location: Surrenal (26%, n = 14), paravertebral (59% n = 31), midline (15%, n = 8), multifocal (3% n = 1). Stage distribution:Only one patient was Stage M, while the others were Stage L2. Primary surgery was performed in 25% of patients. After two cycles of chemotherapy, the objective response rate was 91%, with 38% undergoing surgery. Response assessment after four cycles of chemotherapy was performed in 20 patients, and 65% underwent surgery. Three events occurred, including disease progression and risk group shift after chemotherapy. The 1-year and 3-year event-free survival rates were 94%, and the overall survival rate was 100%. The median follow-up duration was 24 months (1–53 months).
Conclusions: Survival rates in both the very low-risk and low-risk groups were found to be high, similar to previous years.

PO305 / #2916 | *AS05 - SIOP Scientific Program / AS05e. Neuroblastoma*

Safety of Naxitamab+Gm-Csf in Combination With Induction Chemotherapy in High-Risk Neuroblastoma

Jacqueline Kraveka[1], Genevieve Bergendahl[2], William Ferguson[3], Arthur Berg[2], Randal Wada[4], Pierre Tiera[5], Kevin Bielamowicz[6], Lisa Mcgregor[7], Bruno Michon[8], Elizabeth Alva[9], Thomas Russell[10], Colleen Mcdonough[11], Julie Steinbrecher[2], Abigail Moore[2], Giselle Saulnier Sholler[7]
[1]Medical University of South Carolina, Charleston, United States of America; [2]Penn State College of Medicine, Hershey, United States of America; [3]Cardinal Glennon Children's Medical Center, St. Louis, United States of America; [4]Kapiolani Medical Center for Women and Children, Honolulu, United States of America; [5]CHU Sainte-Justine, Montreal, Canada; [6]Arkansas Children's Hospital, Little Rock, United States of America; [7]Penn State Health Children's Hospital, Hershey, United States of America; [8]CHU de Québec-Université Laval, Pediatric Hematology-oncology, Quebec, Canada; [9]UAB Children's Hospital of Alabama, Birmingham, United States of America; [10]Atrium Health Levine Children's Hospital, Charlotte, United States of America; [11]Augusta University Health, Augusta, United States of America

Background and Aims: Despite advances in frontline multimodality therapy, the overall survival in children with high-risk neuroblastoma (HRNB) remains below 60%. Novel treatment strategies are needed to improve the survival rate. Recent studies have demonstrated the safety and potential benefit of combining anti-GD2 immunotherapy with chemotherapy both at diagnosis and in relapsed or refractory patients. BCC018 (NCT05489887), a Beat Childhood Cancer multicenter Phase II trial, was designed to evaluate the end-of-induction response rate in newly diagnosed HRNB patients treated with 5 cycles of standard induction chemotherapy combined with a humanized GD2-binding monoclonal antibody, naxitamab, plus GM-CSF. We report on patients enrolled in the safety cohort that have completed therapy to date (n = 15).
Methods: Naxitamab was administered at 3 mg/kg/dose on Days 1, 3, and 5 of each cycle; additional cycles of naxitamab/GM-CSF combined with chemotherapy were allowed for poor responders. All Grade 2 or higher non-hematologic adverse events (AE), whether related or not, that were new or increased in severity or frequency from baseline, or any event that caused a protocol-required dose reduction, infusion rate reduction, interruption, or discontinuation, were collected during treatment and for 42 days after last dose of naxitamab.
Results: A total of 240 naxitamab infusions were administered. All 15 subjects had at least 1 treatment-emergent adverse event (TEAE) and 12 subjects experienced at least 1 naxitamab-related TEAE. No AEs were fatal. The most common Grade 3 infusion-related AEs reported were abdominal pain (47.4%), hypertension (15.8%), hypotension (36.8%) and generalized pain (31.6%). The single Grade 4 TEAE was dyspnea. All TEAEs resolved. One unrelated TEAE of electrolyte imbalances led to naxitamab discontinuation.
Conclusions: No new safety concerns have emerged. The safety profile of naxitamab when combined with induction chemotherapy was found to be manageable and acceptable.

PO306 / #1861 | *AS05 - SIOP Scientific Program / AS05e. Neuroblastoma*

Single-Cell Rna Sequencing Unveils Heterogeneity and Critical Genes in Neuroblastoma Primary and Metastatic Lesions

Yi Li, Ran Yang, Kuiran Dong, Rui Dong

15455017, 2025, S6, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/pbc.32170 by Turkey Cochrane Evidence Aid, Wiley Online Library on [15/01/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License